

AMSAT News Service Weekly Bulletins

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AMSAT NEWS SERVICE

ANS-083

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:
ans-editor@amsat.org

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ANS-083 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 083.01

>From AMSAT HQ SILVER SPRING, MD.

March 24, 2013

To All RADIO AMATEURS

BID: \$ANS-083.01

* Volunteers are needed to help at the AMSAT booth at Dayton. *
* Steve Belter N9IP, is looking for volunteers to help man the *
* AMSAT booth during the 2013 Hamvention. If you are willing *
* to help at the Hamvention, please send an e-mail by April 30 *
* to Steve Belter, n9ip@amsat.org. *
* *
* Monitor the 'AMSAT at Dayton Hamvention 2013' link on the new *
* AMSAT Web Site <http://www.amsat.org> for the latest AMSAT at *
* Dayton news and developments *

Come See AMSAT at Dayton 2013

The 2013 Dayton Hamvention, sponsored by the Dayton Amateur Radio Association will be held this year on May 17-19, 2013. "Dayton" is the largest hamfest in the United States, and AMSAT will be there

again this year.

AMSAT's theme for Dayton will be "AMSAT - A View to the Future."
Come see AMSAT in Ball Arena, right across from the ARRL area and
just inside the door from the Satellite Demonstration area.

The AMSAT booth will feature AMSAT Engineering, new publications,
new apparel, amateur satellite hardware and software. The AMSAT
Forum will be on Saturday May 18. Plan to visit all of the AMSAT
activities!

- + The booth will feature an engineering model of the 1U Fox Cubesat
- + AMSAT Publications
- + AMSAT Apparel
- + Station Hardware
- + The latest version SatPC32 tracking software
- + Renew your AMSAT membership at the AMSAT booth too.

[ANS thanks JoAnne Maenpaa, K9JKM for the above information]

Dayton Hamvention 2013 AMSAT Forum

This year's AMSAT Forum will be held is on Saturday in Room 5,
from 1115
to 1330 EDT. There will be an open Q&A session after the talks.

Moderator: Alan Biddle, WA4SCA

Speakers:

"AMSAT Status Report." Barry Baines, WD4ASW, AMSAT-NA President,
will highlight recent activities within AMSAT and discuss some of the
challenges, accomplishments, and exciting projects of the
organization.

"A report on ARISS." Frank Bauer, KA3HDO, AMSAT-NA Vice President
for Human Spaceflight, will discuss amateur operations on the
International Space Station.

"AMSAT Fox Satellite Program," Tony Monteiro, AA2TX, AMSAT-NA
Engineering VP, will present the current Status of the AMSAT Fox
CubeSat Projects.

"The AMSAT-UK FUNcube CubeSat." Howard Long, G6LVB, AMSAT-UK
Committee Member, will discuss the FUNcube project which will enable
amateurs and students to use and learn about satellites.

"Amateur Satellites, Education, and You!" Mark Hammond, N8MH, AMSAT-
NA Educational Relations VP, will discuss what satellite operators
can do to support the educational goals of AMSAT.

[ANS thanks Alan WA4SCA for the above information]

More 'AMSAT at Dayton' News

- + AMSAT Hotel

The cutoff date to book a room with the AMSAT group is April 25. If you are interested in staying with AMSAT at Dayton, please call Martha at the AMSAT Office at 301-589-6062.

+ Thursday Night Dinner and Beverages at Tickets Pub and Eatery

Thursday night, May 16, 1830-???? at the Tickets Pub and Eatery in Fairborn, OH. This is a great chance to relax after a hard day's travel or setting up the AMSAT display area. Very informal. Click the 'AMSAT at Dayton Hamvention 2013' button on the new Web Site: <http://www.amsat.org>.

+ AMSAT/TAPR Friday Night Banquet

AMSAT/TAPR Banquet on Friday night, May 17 is one of the main AMSAT activities during the 2013 Hamvention at Dayton. Banquet tickets will not be sold at the AMSAT booth during the Hamvention so reservations must be made through the AMSAT Store. For the latest details about the Banquet go to the 'AMSAT at Dayton Hamvention 2013' button on the new Web Site: <http://www.amsat.org>. The link to the AMSAT Store to purchase the Banquet tickets will be found there. Tickets are \$30 apiece.

+ Satellite Demonstration Area

AMSAT is encouraging everyone attending the 2013 Dayton Hamvention to come by the Satellite Demonstration Area just outside of the Ball Arena entrance for live demonstrations making contacts using the amateur satellites. There will be AMSAT volunteers there to explain how to make the contacts and during actual satellite passes. Lists of satellite pass times will be posted in the satellite demonstration area and at the AMSAT booth.

[ANS thanks AMSAT's 2013 Dayton Committee for the above information]

ISS Expedition 35 Crew To Include Three Licensed Hams

A report posted on Space-Travel.com says Russian cosmonauts Pavel Vinogradov, RV3BS and Alexander Misurkin and NASA astronaut Chris Cassidy have arrived at the Baikonur Cosmodrome in Kazakhstan to prepare for the March 29 launch to the International Space Station.

Their Soyuz spacecraft is to reach the ISS in a record six hours due to a new fast-track launch trajectory.

The ISS will have a crew of six upon arrival of the Soyuz when Vinogradov, Misurkin and Cassidy join with Russian cosmonaut Roman Romanenko, Canadian astronaut Chris Hadfield, KC5RNJ/VA300G, and US astronaut Thomas Marshburn, KE5HOC are already aboard the space station.

See <http://tinyurl.com/March29-Launch> (Space-Travel.com) for their original posting.

[ANS thanks Space-Travel.com for the above information]

ARISS News

Recent ARISS Contacts

+ Christ the King School, Adelaide, South Australia, Australia on 20 March 2013

A successful ARISS Contact was made with with participants at Christ the King School, Adelaide, South Australia, Australia on 20 Mar. The contact began at approximately 07:15 UTC, and lasted for about 9 minutes and 30 seconds. The contact was a telebridge between OR4ISS and IK1SLD and was audible over Italy and adjacent areas.

Established by the Sisters of the Good Samaritan, Christ the King School, Warradale, is a small, Reception to Year 5 Catholic parish school within the Brighton Parish in Adelaide. The school has approximately 190 students across 7 classes. In the Catholic tradition, they seek to provide a comprehensive Catholic education to children in a caring, faith community.

+ Ann Richards School for Young Women Leaders, Austin, TX on 20 March 2013

A successful ARISS Contact was made with with participants at Ann Richards School for Young Women Leaders, Austin, TX on 20 Mar. The contact began at approximately 14:20 UTC, and lasted for about 9 minutes and 30 seconds. The contact was a telebridge between NA1SS and VK6MJ and was audible over portions of Australia and adjacent areas.

The Ann Richards School for Young Women Leaders is a unique all-girls school founded to educate young women and give them the confidence and skills necessary to succeed in college, in their careers, and in their communities. They are a public school in the Austin Independent School District serving over 700 girls in 6th through 12th grade. The girls partake and excel in engineering design projects and robotics competitions. The demographics of our student body mirror that of our local community. During the 2011 - 2012 school year, 61% percent of our students were Hispanic, 22% are Caucasian, 13% were African-American, 3% were Asian-American and 1% were American Indian/Alaskan Native. Two hundred of the girls were gathered as 10 of their peers asked questions on behalf of all grade levels during the ARISS contact.

+ UA Huntsville Space Hardware Club, Huntsville, AL, on 21 March 2013

A successful ARISS Contact was made with with participants at UA Huntsville Space Hardware Club, Huntsville, AL, on 21 Mar. The contact began at approximately 15:50 UTC, and lasted for about 9 minutes and 30 seconds. The contact was a direct between NA1SS and K4UAH and was audible over portions of the U.S.

The Space Hardware Club is a UA Huntsville student organization. The club is student run and is strictly volunteer. Using the capacities of a multi-disciplinary team of engineering to conceptualize, design, build, test and fly flight hardware for orbital spaceflight, high altitude ballooning, competitive mock-satellite design, build, launch competitions, and other space related engineering problems. Involvement in The Space Hardware Club allows students to experience real life time sensitive deadlines, and design payloads to mission specification. The students learn to design mechanical structures, software, and circuit boards while considering thermal forces, shock loads, and other realistic environmental limitations.

Upcoming ARISS Contacs For This Week

+ Thornton Middle School, Katy, TX on 25 Mar. The event is scheduled to begin at approximately 15:39 UTC. The duration of the contact is approximately 9 minutes and 30 seconds. The contact will be direct between NA1SS and KF5NZD. The contact should be audible over portions of the U.S. Interested parties are invited to listen in on the 145.80 MHz downlink. The contact is expected to be conducted in English.

+ Des Cardinaux School, Sainte-Rose, Laval, Quebec, Canada on 26 Mar. The event is scheduled to begin at approximately 13:13 UTC. The duration of the contact is approximately 9 minutes and 30 seconds. The contact will be a telebridge between NA1SS and K6DUE. The contact should be audible over the east coast of the U.S. Interested parties are invited to listen in on the 145.80 MHz downlink. The contact is expected to be conducted in French.

[ANS thanks ARISS for the above information]

[QB50] 5th European CubeSat Symposium - ESA sponsorship - Deadline postponed

Cem O. Asma, PhD, Aeronautics & Aerospace Dept von Karman Institute, reports, "We have good news regarding the 5th European CubeSat Symposium that will be held on 3-5 June 2013 at Brussels, Belgium. The Education Office of European Space Agency has kindly offered scholarships to selected students to attend the European CubeSat Symposium. More information on the rules and how to apply are given at the Symposium web site:
<https://cubesatsymposium.eu/>

We have therefore decided to postpone the deadline of abstract submission to 29 Mar 2013 so that those who consider an ESA sponsorship can apply as well."

[ANS thanks Cem O. Asma, PhD for the above information]

March/April 2013 AMSAT Journal Heading for the Print Shop

AMSAT Journal Editor, JoAnne K9JKM reports that the March/April 2013 issue is on its way to the print shop this week. It should reach your mailbox in early to mid-April. This issue features two technical projects, operating features, and the latest news from AMSAT's officers.

We'll update you on all the content next week when the March/April Issue is completed, packed up, and ready for delivery.

Thanks for all the help from our Journal Editorial Team: Douglas Quagliana, KA2UPW/5; Mike Sedlak, K4ERA; Bernhard Jatzeck, VA6BMJ; Bill Hook, W3QBC, and Martha at the AMSAT Office.

The AMSAT Journal is pleased to publish your articles and photos of satellite operations and all aspects of amateur radio in space. Send your ideas and questions to journal at amsat.org.

[ANS thanks AMSAT Journal Editor JoAnne Maenpaa, K9JKM for the above information]

KiwiSAT - All systems are now flight ready

The KiwiSAT website reports that all hardware is complete and the KiwiSAT micro-satellite is operational. Final integration to launch ready awaits completion of command and control testing.

They say software is being developed and launch negotiation is underway in New Zealand. Earlier reports indicated that \$1 million was required for a launch to a 700 km orbit.

Read the status report dated March 13, 2013 at <http://www.kiwisat.org.nz/status.html>

[ANS thanks Trevor M5AKA and AMSAT-UK for the above information]

New Swiss Small Satellite Launch System

Swiss Space Systems – S3 a new Swiss aerospace company, was officially inaugurated in Payerne on Thursday, March 14, in the presence of representatives of the national authorities and of prestigious Swiss and international partners such as the ESA, Dassault Aviation, the Von Karman Institute, Sonaca, Meggitt and Stanford University. S3 aims to develop, build, certify and operate suborbital space shuttles dedicated to launching small satellites, enabling space access to be made more democratic thanks to an original system with launching costs reduced to a quarter of the present cost. The first test launches are planned to be carried out by the end of 2017.

The Swiss Space Systems launch model uses an Airbus A300, an aircraft already certified for zero gravity flights, to take the shuttle up to 10,000m on its back; the shuttle will then be launched from there. Combining the internal architecture developed by the French company Dassault for Hermes with the external architecture developed by the Belgian companies Sonaca and Space Application Services will develop the shuttle. Discussions are at an advanced stage concerning the engine supplier. The shuttle-drone will take care of the next part of the ascent up to an altitude of 80km, the height at which the upper stage will be launched in order to put the satellites into orbit. Once this operation has been completed, the shuttle will return to earth by gliding towards its launch airport, where it will be taken care of by the maintenance teams who will prepare it for a new launch.

S3 say agreements have already been signed for four launches for the Von Karman Institute.

How will the in-orbit delivery of small satellites work ? Video at <http://tinyurl.com/b27atko>

Swiss Space Systems – S3 <http://www.s-3.ch/>

[ANS thanks AMSAT-UK for the above information]

Raspberry Pi as WSPR transmitter up to 250 MHz

Guido PE1NNZ has released code that he says enables the Raspberry Pi to operate as a WSPR transmitter at HF and VHF.

Guido has modified the WsprryPi code originally developed by Dan Ankers MD1CLV. He says the Raspberry Pi requires just a Low Pass Filter (LPF) and antenna connected to the GPIO4 pin in order to function as a WSPR transmitter.

The PE1NNZ code and binary is available at
<https://github.com/threeme3/WsprryPi>

Turning the Raspberry Pi into an FM Transmitter
http://www.southgatearc.org/news/march2013/turning_the_raspberry_pi_into_an_fm_transmitter.htm

Dan Ankers MD1CLV WSPR
<http://m0xpd.blogspot.co.uk/2013/01/raspberry-whispers.html>

WSPR on the Raspberry Pi
http://www.southgatearc.org/news/march2013/wspr_on_the_raspberry_pi.htm

[ANS thanks Southgate Amateur radio News for the above information]

Houston based WebSDR for 2m Ham Band

Thomas Krahn KT5TK has made available a Houston-based Web Software Defined Radio for the 144-146 MHz amateur radio band.

The WebSDR receiver is located in the 8th floor of a Houston office building. The receiver is a simple RTLSDR dongle with an Elonics E4000 tuner. The brand is: Terratec NOXON DAB/DAB+ USB dongle (rev 2). Currently a telescopic antenna is being used but it's planned to change to a bi-quad antenna.

Thomas notes that the Houston AMSAT NET can be heard on Tuesdays at 8pm Central Time (Wednesday 0100 UT) On 145.470 MHz FM. (Also available on Echolink AMSAT node.)

The Houston 2m WebSDR is available at
<http://websdr.tkrahn.com:8901>

[ANS thanks Southgate ARC for the above information]

AMSAT Helps at Monrovia HS Science Expo and ISS Downlink

On Saturday, March 2, the Pasadena Radio Club participated in the Monrovia High School Science Expo with the help of local AMSAT

members. Set up started at 8 am and the display began at 10. Tom Berne gave students the opportunity to talk over amateur radio while Robert and Irene Allen and Kate Hutton transmitted radiograms. Tom Mikkelsen, Tim LaMarca, and Dale Hunzeker demonstrated amateur radio satellite communications with an AMSAT satellite simulator and a satellite receiving station. All spent considerable time answering questions and sharing their ham radio experiences.

Other activities at the Science Expo included a FIRST Robotics competition, demonstrations by the Remote Control Aircraft Club, and booths from Sidewalk Astronomers, NASA, Planetary Society, FTC/FRC Robotics, and Miachi/UniTek. Stargazing activities continued into the evening.

Science Expo activities continued on Tuesday, March 5, with a NASA sponsored live International Space Station downlink. Over one thousand 5th - 12th grade Monrovia students watched as three astronauts "floated" inside the space station while answering students' questions. Tim LaMarca, Jutti Marsh, and Dale Hunzeker were in the audience. These activities are examples of ways amateur radio can work with schools in STEM (Science, Technology, Engineering, and Mathematics) education.

[ANS thanks Dale L. Hunzeker, KJ6VUC for the above information]

Music in Space Downlink With the International Space Station

Join NASA's Johnson Space Center, or JSC, Digital Learning Network for a live International Space Station downlink with astronaut Chris Hadfield, space station commander. Commander Hadfield and students from the Pasadena Independent School District's Pearl Hall Elementary will explore the many cultures and music surrounding the International Space Station partners. Students will perform songs at JSC with astronaut Dan Burbank and with space station astronaut Chris Hadfield. Students from Pearl Hall Elementary in Pasadena, Texas, and the Chris Hadfield Public School in Ontario, Canada, will speak to Chris while exploring about the connection between the arts and science, technology, engineering and mathematics.

Watch the webcast live on March 27, 2013, from 2:30-3:45 p.m. CDT* by clicking on the link below.
<http://tinyurl.com/2aufnge>

Questions about the program may be directed to
Patricia Moore at patricia.l.moore@nasa.gov.

*The webcast time is subject change due to communication with the space station. Please visit <http://dln.nasa.gov> for the most recent information.

[ANS thanks NASA Education Express Message -- March 21, 2013]

Argentine CubeBug-1 satellite will have amateur radio digipeater

CubeBug-1 is the first technology demonstration mission for a new

CubeSat platform design (mechanics, hardware and software) intended to be released as Open Source and Open Hardware for its use in Amateur projects, University projects and research labs.

The project is sponsored by the Argentinian Ministry of Science, Technology and Productive Innovation.

Payloads on this first mission include:

- an ARM based on-board computer
 - a nano-reaction wheel with its driver circuit
 - a low resolution camera
- all based on COTS components

CubeBug-1 is a 2U CubeSat and the team are planning to use half duplex communications on 437.445 MHz with 9k6 GMSK data. Telemetry information is at <http://1.cubebug.org/coms/telemetry>

After the technology demonstration part of the mission is over, the satellite will enter a mode that will include services to the Amateur radio community, including a Digipeater, science data downloads from the payload (including images if possible).

CubeBug-1 is expected to launch on a Long March CZ-2D rocket from the Jiuquan Space Center on April 28, 2013. Other satellites on the same launch include NEE-01 Pegasus and TURKSAT-3USAT.

Watch a CubeBug-1 video at <http://vimeo.com/56055215>

CubeBug-1 website <http://1.cubebug.org/>

[ANS thanks AMSAT-UK for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
EMike McCardel, KC8YLD
kc8yld at amsat dot org

Via the ANS mailing list courtesy of AMSAT-NA
<http://amsat.org/mailman/listinfo/ans>